M. A. R. 57 (Rule 116) No. E

Measurement Book

646033

Serial No. .....

Bill no: 1st and final.

Name of work ..... From ..... To .....

Name of Contractor of nature of Agency..... 008-20-00034 ..... P 2902

Date of commencement of work.....

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	Name of work :- Improvements to roads and drains of Sahakaranagara main road and surrounding areas in ward no. 08, Kodigehalli.						
	A/S No:- CE(RI)/ADM/AS/167/2019-20 Dt:- 23.10.2019.						
	T/S No:- CE(RI)/TS/124/2019-20 Dt:- 23.10.2019.						
	Job code:- 008-20-00003 P-code:- P-2902. Est. Cost:- Rs. 100.00 lakhs.						
	Agreement No:- EE/RI/Wrk/Ag/12/2019-20 Dt:- 18/12/2019						
	Work order No:- EE/RI/Wrk/WO/12/2019-20 Dt:- 18/12/2019						

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MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	~~Agency~~ - Executive Engineer - 4 KRIDL, ~~BBMP~~ Divisions, Sri. Shivakumar Swamy nilaya No.280, 59th Cross, 17th ℄ main Road, 3rd y block, Rajajinagara, Bangalore. Actual Completion ~~of~~ Date: 26.02.2021						
	(1) Removing defining stone slab & drain and pointing in C.M(1:3)						
	~~aty vide~~ Item No (1) Pg No (3) of 1st & final measurement booklet:					1239.00 sqmt	

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M. A. R. 57 (Rule 116) **No. E**

Measurement Book

Serial No. 646034

Name of work ..... From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	1239.00 Sqmt @ Rs. 111 = 30/- per Sqmt					137900 = 70	
	2) Earthwork excavation by manual means for roads, drains & similar works in ordinary soil excavated surface levelled and sides neatly dressed, the dipped earth to be levelled neatly after breaking of clods complete as per specification City wide Memo No. (2) page (6) of 1st & final measurement booklet					243.16 Cum.	

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MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
						243.16 Cum @ Rs. 214=50 per Cum =	52158=25
	3) Providing granite slabs of selected quality roughly dressed and fixed in cement mortar (1:6) including fixing using CM complete 7.5 cms thick. Qty vide Item no (3) pg no. 9 of 1st & final measurement					217.50 Sqmt.	
						217.50 Sqmt @ Rs. 742=00 per Sqmt =	161385=00
	4) Providing & laying plain cement concrete of mix 1:3:6 with OPC @ 220 kg/cum. crushed 40mm and down size graded						

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M. A. R. 57 (Rule 116) **No. E**

Measurement Book

Serial No. 646035

Name of work ..... From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	granite metal coarse aggregate @ 0.89 cum and fine aggregate @ 0.46 cum, in foundation mechanically mixed placed in foundation and compacted by vibrator including curing for 14 days including cost of all materials, labour, tools curing form works, scaffolding and centering complete as per specification. City wide Items (4) Pg 01. (10) of Excel sheet booklet = 35.36 cum.						

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MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
							191718.00
		35.36 Cum @ Rs. 5421-90				per cum =	191723 = 80
	5) Providing & laying Plain / reinforced cement concrete for side drains using M20 nominal mix concrete with OPC at 300 kgs with 20mm and downsize granite metal coarse aggregate at 0.69 cum and fine aggregate at 0.43 cum machine mixed, well compacted for walls & bottom including centring, shuttering, cost of makrals, Hire of machines curing etc complete excluding cost of steel as per MORTH specification NO 1500, 1700, 2200. Including cost of makral, labour Hire complete as per specification. Wall & bottom thickness 15cm						

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M. A. R. 57 (Rule 116) No. E

Measurement Book

646036

Serial No. .....

Name of work ..... From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	Qty vide Item No. (5) Page No. 12 of Excel sheet booklet					: 104.40 Cum	
	104.40 cum @ Rs. 7070 = 2of per cum =					738128.88 / 738160 = 70	
	6) Providing T.M.T steel reinforcement for R.C.C walls including straightening cutting, bending, hooking, placing in position, lapping and/or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as						

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MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	per design (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, TOR complete as per specification.						
	Qty vide Item no. (2) page (13) of Excel sheet booklet : 5.21 Tn						
	5.21 Tn @ Rs. 72326 = 98/- per Tn = 376965 = 47/-						376823.56
7)	Providing and fixing pre cast covering slab 250 mm thick made out of CC 1:2:4 and jelly 20mm down size with steel reinforcement including 28m cubes, curing, including						

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M. A. R. 57 (Rule 116) No. E

Measurement Book

646037

Serial No. .....

Name of work ..... From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	cost of all materials, labour, hire charges of machinery loading, unloading, lead & lift transportation etc complete. Qty vide Item no. (7) pg. no. 38 of Excel Sheet booklet 318.15 sq mt @ Rs. 3640=00 per sq mt					318.15 sq mt	1158066=00
8)	Providing and fixing pre cast covering slab made out of CC 1:2:4 min 100mm thick and finishing cutting, including form work, curing, including cost of all materials, labour, hire						

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MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	Charges of machinery loading, unloading, lead & lift transportation qty vide Item no (8) pg. no. 39 of Excel sheet booklet					= 60.00 sqmt.	
	60.00 sqmt @ Rs. 1145 = 86 % per sqmt					= 68751 = 60/-	
9)	Excavation of road side drain all types of soil by mechanical means including cutting & loading to tipper, trimming bottom and side slopes in accordance with requirements of lines grades and cross section and transportation with a lead of 1.00 km and complete as per specification.						

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M. A. R. 57 (Rule 116) No. E

Measurement Book

646038

Serial No. .....

Name of work ..... From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	Qty vide Item (9) Pg. no. (15) of Excel Sheet booklet					183.21 Cum	
	183.21 Cum @ Rs. 57=03/- per cum =					10448=59/-	
	10) Scarifying bituminous coure 50mm to 75mm thick along with premix, carpet / surface dressing by mechanical means attached with scarifier without disturbing the bare and stacking the debris including cost of all labour charges, How complete						

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MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	as per epecifications.						
	City vide Item No. (10) Pg. No. 16 of Excel Sheet booklet					: 717.47 sqmt	
	717.47 sqmt @ Rs. 41 = 34/- per sqmt = 29660 = 00/-						
11)	construction of granular sub-base grading-V as sub-base and drainage layer by providing coarse graded crushed stone aggregate of granite / trap / basalt material mixing in a mechanical mix plant at OMC, carriage of mixed material to work site spreading in uniform layer with motor grader						

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M. A. R. 57 (Rule 116) No. E

Measurement Book

646039

Serial No. .....

Name of work ..... From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	on prepared surface and compacting with vibratory power roller to achieve the 98% proctor density, complete as per specification.						
	Qty vide Item no. (11) Pg. no. 19 of Excel sheet booklet					: 171.62 cum	
	171.62 cum @ Rs. 1855=00 per cum					= 318346=52	
(12)	Providing, laying, spreading and compacting crushed stone						

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MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	aggregate of granite / trap / basalt to meet specification including pre mixing the material with water at OMC in mechanical mix plant carriage of mixed material by tipper to site, laying in uniform layer with paver in sub-base / base course on well prepared surface and compaction with vibratory roller to achieve the desired density completion as per specification.						
	Qty vide Item no. 12 pg no. 22 of Excel sheet booklet					: 455.20 Cum	
	455.20 Cum @ Rs. 2001=28 per cum =						910983=16/-

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M. A. R. 57 (Rule 116) No. E 646040
Measurement Book

No. .....
of work ..... From ..... To .....
of Contractor of nature of Agency.....
f commencement of work.....

Full description, etc, of work	Dimensions			Contents	Reference to last Measurement
	Number	Length	Breadth	Depth	
2	3	4	5	6	7	8
Providing and applying primer coat with S.S bitumen emulsion on prepared surface of granular base such as WMM including cleaning of road surface and spraying primer at the rate of 0.60 kg/sq m using mechanical means as per specification.					
qty vide Item no (3) pg no. 25 of Excel sheet booklet					2450.33 sqm.
limited to					2387.60 sqm.
2387.60 sqmt @ Rs. 29.68/- per sq m					= 70863.97/-

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MEASUREMENT BOOK

Date	Full description, etc. of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	14) cleaning the existing black topped surface with brooms, soft brushes and finally dusting with old gunny bags and of compressed air to receive bituminous treatment, including cost of all materials, labour, TOM complete as per specifications						
	Qty vide Item no. (14) pg. no. 28 of Excel Sheet Booklet					6075.02 Sqmt	
	Limited to 6062.00 Sqmt						
	6062.00 Sqmt @ Rs. 5 = 30/- per Sqmt					32128 = 60/-	
	15) providing and applying tack coat using 80/100 grade bitumen (Ver 10) on the prepared black topped surface at 2.5 kg						

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M. A. R. 57 (Rule 116) No. E

Measurement Book

646041

Serial No. .....

Name of work ..... From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Date	Full description, etc, of work	Number	Dimensions			Contents	Reference to last Measurement
			Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	per 10 lqm heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, tools complete as per specifications Qty vide Item no. (15) pg. no. 31 : 8940.18 sqmt of Excel sheet booklet Limited to 8864.60 sqmt. 8864.60 sqmt @ Rs. 12 = 72/- per sqmt = 112757 = 79/-						

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MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
4)	Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG 30 grade bituminous binder and transporting the hot mix to work site, laying to the required grade, level & alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction in all respects complete as per specification.						
	Qty vide Item No. (4) Pg. No. 34 of excel sheet booklet					: 154.23 cum.	
	154.23 cum @ Rs. 6858=20/- per cum =					1057740.00	1057769=33/-

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M. A. R. 57 (Rule 116) **No. E**

Measurement Book

646042

Serial No. .....

Name of work ..... From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	17) ~~Providing~~ and laying bituminous 40 mm thick hot mix plant using crushed aggregate of specified grading, premixed with bituminous binder & filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level & alignment, rolling with smooth, wheeled, vibratory & tandem roller to achieve the desired compaction in all respects complete as per specification. -do- using 40-60 TPH capacity HMP with mechanical Paver grading II (30-45 mm) with 5.4% of modified bituminous binder consisting of 4.97% of VG-30 bitumen (60/70 grade)						

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MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	and 0.43% of plastomeric thermoplastic (waste plastic)						
	City wide Item No. (17) Pg. No. 00.42 of Excel sheet book let					: 343.11cum.	
	343.11cum @ Rs. 8049=64/- per cum =					2761898 = 30/-	
18	Road making with hot applied thermoplastic compound with reflecting glass beads on bituminous surface / concrete surface: providing & laying of hot applied thermoplastic compound 2.5 mm thick including reflecting glass beads at 250 gms per sqm area. Minimum of 2.5 mm is exclusive of surface						

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M. A. R. 57 (Rule 116) No. E

Measurement Book

646043

Serial No. .....

Name of work ..... From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	applied glass beads as per IRC: 35 standards specified.						
	Qty vide Item no. (18) pg. no. (44) of Excel sheet booklet					280.27 Sq.m.	
	280.27 Sq.mt @ Rs. 454 = 74/- per Sq.mt =						127449.98/-
19)	Supply and Installation of moulded thermo raised pavement marker made of polycarbonate and ABS (Acrylonitrile Butadiene Styrene) moulded body & reflective panels with micro prismatic lens capable of providing total internal reflection of the light						

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MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	entering the lens jack & shall support a load of 16000 kg tested in accordance to specification of category A of MORTH Circular NO RW/ NH /33023/ 10-97 - DO III Dt 11.06.1997.						
	@ city vide Item no (19) pg. no 46 of Excel sheet booklet					329.00 nos	
	329 nos @ Rs. 357=22/- per nos					= 117525=38/-	
						84347434.00	
						84349243=06	
						337384.00	
						337397=72	
	Rupees Ninty Eight lakhs twenty five thousand twenty one only/-.				+4% KRDL	= 1012168	
					+12% GST	= 1052680=89	
						9825021=67/-	
						978H291-00	

Varu
AE 26/2/2021

Assistant Executive Engineer
Road Infrastructure, (Yelahanka Division)
Bengaluru Mahanagara Palike

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M. A. R. 57 (Rule 116) No. E

Measurement Book

646044

Serial No. .....

Name of work ..... From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	Certificate:-						
	1. Certified that the work done is satisfactorily.						
	2. There is no departmental issues by BBMP.						
	JE 26/02/2021				JE 26/2/21 Assistant Executive Engineer Road Infrastructure, (Yelahanka Division) Bruhat Bengaluru Mahanagara Palike Bengaluru - 02.		

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MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
1st & Final Bill	8772123-00					008-20-0000 34	P292
12% GST	1012168-00						
Present pay	9784291-00						
IT 1.5%	131582-00						
CGST	87721-00						
SGST	87721-00						
LWF	8772-00						
CBF 0.1%	195421-00						
Royalty	491240-00						
FSD 5%							
Ads	1090178-00						
By cheque	8694113-00						

Audited & Admitted Rs. 9784291-00
Passed for Rs. 8694113-00
Rupees Eighty Six Lakh Ninety Four Thousand one Hundred and Thirteen only
8694113-00 by Cheque
1090178-00 by Adjustment

A/A

Account Superintendent

E.E.(R.I.)

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